SHERMAN ISLAND
Wildlife Management Plan

Prepared for

California Department of Fish and Game
and
California Department of Water Resources

by

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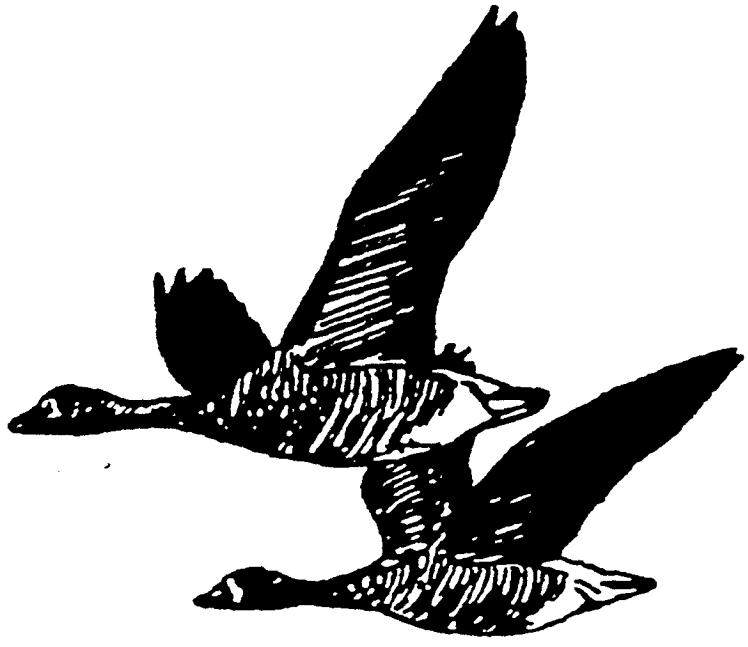

EXECUTIVE SUMMARY

Until recently, water management planning in the west Delta has focused primarily on installation of an overland water supply facility on Sherman Island. This facility, to be funded by the State Water Project, would address only the water supply needs of the island. While these needs are important, other issues and programs have also come into focus and have reshaped and broadened the west Delta planning perspective. A difficult agricultural economy and continuing problems of subsidence and levee instability on Sherman Island have necessitated a more comprehensive planning approach.

This report describes a wildlife management plan as an alternative land use for Sherman Island and presents methods of implementation. Altering land use practices on Sherman Island as proposed in the wildlife management plan could provide up to 10,000 acres of managed wildlife and waterfowl habitat and also provide substantial flood control benefits; added protection for Delta water quality; recreation opportunities; and water supply reliability to the State Water Project, Contra Costa Canal and Central Valley Project.

This wildlife management plan represents the thrust of the West Delta Water Management Program, one of three major planning efforts by the Department of Water Resources in the north, south and west Delta. The wildlife management plan has many purposes, with a broad range of interests and benefits. As such, it provides cost-sharing opportunities and would satisfy the needs and objectives of the west Delta.

The primary purpose of the Sherman Island Wildlife Management Plan is to provide a range of wildlife management opportunities that also effectively reduce subsidence. The alternatives are designed to benefit a wide range of species that use upland, wetland and riparian habitats and provide recreational opportunities for hunting and viewing. The Plan provides a conceptual framework that addresses the placement and distribution of cover types and general management guidelines that will maximize wildlife benefits within the constraints of each alternative, rather than the specific details of soil and water manipulations. The timing and selection of specific management practices and the location and extent of hunting have not been addressed because these decisions ultimately depend on the objectives set forth by the cooperating agencies. However, general provisions for both consumptive (e.g., hunting) and nonconsumptive (e.g., viewing, etc.) activities have been included.

The Sherman Island Wildlife Management Plan consists of 2 main groups of alternatives, plus a base condition (overland facility) for comparison (Table 1). These alternatives were formulated through discussions with personnel of the California Department of Fish and Game (CDFG) and the California Department of Water Resources (DWR). As the Sherman Island Management Plan was developed, 4 major considerations that constantly influenced location and the type of developments were 1) an emphasis on development

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Table 1. Acreage of 7 different habitat types in relation to the management alternatives for Sherman Island.

Alternative/ Project Feature	Permanent wetlands	Seasonal wetlands	Uplands[a]	Riparian corridor	Goose[b]	Riparian habitat	Agriculture
I Base Condition (Overland plan)	98	0	946[c]	0	0	0	9309
II Agriculture Management Plan							
a Managed agriculture	98	0	946	0	0	0	9309
b Fallow	Variable[d]	Variable	Variable	0	0	0	0
III Wetland Management Plan							
a 20% wetlands	931	1549	6066	427	453	561	0
b 40% wetlands	931	3315	4300	427	453	561	0
c 60% wetlands	1374	4772	2399	427	453	561	0
Additional Project Features[ef]							
Mitigation Banking	Variable[ef]	Variable	Variable	Variable	Variable	Variable	Variable
Phased planning	Variable[ef]	Variable	Variable	Variable	Variable	Variable	Variable

[a]Uplands and riparian corridor must be combined to give total acreage managed for upland wildlife.
[b]Managed specifically for geese.
[c]Pasture and native vegetation.
[d]In the fallow plan, the permanent and seasonal wetlands and uplands acreages cannot be accurately predicted.
[e]In mitigation banking and phased plan, acreages will be dependent on future management decisions.
[f]Mitigation banking can be applied to any or all of the alternative Management Plans. Phased planning is an implementation strategy that applies to the overall project.

of wetland and riparian habitats, 2) maintenance of the integrity of the island by reducing the rate of soil subsidence that is largely caused by current farming practices, 3) minimization of the use of agricultural crop production as a means of providing food resources for wildlife while utilizing the most cost effective methods possible and 4) effectively managing the island for wildlife. For comparative purposes, the Base Condition is the Overland Plan. Construction of an overland water transport facility currently is provided in the 1981 contract between North Delta Water Agency and DWR. This transport facility would move irrigation water from Threemile Slough to the southwestern portion of Sherman Island. About 1,500 acres in the northeastern section of the island adjacent to Threemile Slough would not receive water from the overland facility. The Overland Plan only provides an alternate source of water for the island rather than changing land use practices. Thus, traditional agricultural practices and associated subsidence likely will continue at current rates.

The Agriculture Management Plan consists of 2 subalternatives and is the least expensive wildlife management plan. These subalternatives, Managed Agriculture and Fallow, lack specific habitat developments to benefit wildlife. Instead, agricultural crop production will be modified or eliminated to reduce the rate of soil subsidence and consumptive water use on the island. Wildlife management in the Managed Agriculture Plan identifies farming practices beneficial to wildlife. In the Fallow Plan, general con-

Table 2. Relative benefits to recreation, upland and riparian habitats, wetland habitat and subsidence and flood control provided by the wildlife management alternatives.

Alternative/Project Feature	Recreation	Upland and riparian habitats	Wetland habitat	Subsidence and flood control[a]
I Base condition (Overland plan)	+	+	+	+
II Managed agriculture plan				
a Managed agriculture	+	+	+	+ +
b Fallow	+ +	+ +	+	+ + + +
III Wetland management plan				
a 20% wetlands	+ + + +	+ + + +	+ +	+ + + +
b 40% wetlands	+ + + +	+ + +	+ + +	+ + + +
c 60% wetlands	+ + + +	+ +	+ + + +	+ + + +
Additional Project Features				
Mitigation banking	Variable	Variable	Variable	Variable
Phased planning	+ to + + + +	+ to + + + +	+ to + + + +	+ + to + + + +
Nonproject levee rehabilitation[a]	NA	NA	NA	+ + + +

[a]Flood control benefits include protection of recreation and wildlife/wetland habitat; existing islandfeatures such as Hwy. 160, PG&E transmission levels, gas wells and private residences; and reliability of state, federal and local water supplies.
[b]Not applicable.

clusions are drawn concerning the vegetation succession that will likely occur if agriculture is eliminated, and potential benefits to wildlife are discussed.

The most intensive developments occur in the Wetland Management Plan which represent 3 levels of wetland development: 20, 40 and 60% of the island respectively. A plan design and a discussion of the distribution, development and management of cover types is included in each subalternative. The primary purpose of the Wetland Management Plan is to create a diversity of wetlands, uplands and riparian habitats that provide benefits to an array of wildlife.

Common to both main groups of wildlife/wetland management alternatives is the use of mitigation banking. Under mitigation banking, development is dependent on habitat mitigation requirements from projects that will be implemented in the future. Because the rate and type of habitat development is dependent on many variables and cannot be predicted, general directives on how developments should proceed are presented. Actual mitigation will be "in kind" and "on site."

In order to provide flexibility in implementing a wildlife management plan, consideration will be given to a phased planning approach. Under this approach, gradual development of management Units is projected over a longer period as financial resources become available and priorities dictate that more development is warranted. The phased approach permits evaluation of specific management practices as well as their operating efficiency and costs before additional developments are implemented. Because of the wide range of options that will result if the Phased Plan is implemented, emphasis is placed on strategies concerning the location and extent to which specific cover types are developed.

Each of the alternatives has a somewhat different emphasis but wetlands receive special attention. The benefits and costs of alternatives are summarized for easy comparisons (Tables 2 and 3). Minimum benefits to recreation, wildlife/wetland habitat and flood control are provided under the base condition (overland facility). Benefits to recreation, wildlife and flood control increase as planning progresses from the agricultural management options through the various wetland management alternatives. Because development is based on Units that can be operated independently, development can proceed in a stepwise fashion whether an entire plan is initiated or the Phased Approach is used.

Table 3. Potential funding sources, land acquisition scenarios, cost of development and operation and maintenance for 5 wildlife management alternatives.

Alternative/ Project Feature	Acquisition scenario	Acquisition cost	Development cost (million)	Annual Operation and maintenance cost	Resource commitment (million)	Funding source[a]
I Base Condition (overland plan)	NA	NA	Unknown	NA	NA	SWP
II Managed Agriculture Plan						
a Managed agriculture	Easement	Negotiable[b]	0	$200,000	Acquisition	SWP, CVP USACE, WCB
b Fallow	Easement/ Fee title	Negotiable	0	$200,000	Acquisition	SWP, CVP USACE, WCB
III Wetland Management Plan						
a 20% wetlands	Easement/ Fee title	Negotiable	$6.6	$356,663	Acquisition + $6.6	SWP, CVP USACE, WCB
b 40% wetlands	Easement/ Fee title	Negotiable	$8.0	$325,221	Acquisition + $8.0	SWP, CVP USACE, WCB
c 60% wetlands	Fee title	Negotiable	$10.5	$295,871	Acquisition + $10.5	SWP, CVP USACE, WCB
Additional Project Features						
a Mitigation banking	Easement/ Fee title	Negotiable	Variable	Variable	Acquisition	SWP, CVP
b Phased planning	Easement/ Fee title	Negotiable	$0-10.5	Variable	Acquisition + $0-10.5	SWP, CVP USACE, WCB
c Nonproject levee rehabilitation	NA	NA	~$6.5	~$35,000	~$6.5	Legislature (SB 34)

[a] Funding sources: CVP, Central Valley Project; SWP, State Water Project; USACE, U.S. Army Corps of Engineers; WCB, California Department of Fish and Game Wildlife Conservation Board.
[b] Acquisition costs depend on proportion purchased as easements or in fee title.